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Two recent training institutes for new and inexperienced technical education administrators were designed to develop and improve the participants' understanding of the philosophy of technical education, the technical education leadership role, and how this role relates to program planning and development of continued leadership potential through inservice training. The 2-week institutes at the University of Michigan and Texas A and M University were attended by 89 technical education administrators from 37 States. Topics covered during the institute included: (1) The rationale and need for technical education, (2) administrative structures for technical education institutions, (3) staffing technical education programs, (4) facilities and equipment for technical education programming, and (5) national, State, and local resources for program support. A formal evaluation of the participants was conducted to determine the gain in knowledge acquired, the ability to plan for implementation of positive program change, and the intent to provide a continuation of leadership development activities. The results are included in this document. (JH)

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FINAL REPORT

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NATIONAL PROGRAM DEVELOPMENT INSTITUTES
IN TECHNICAL EDUCATION

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Aaron J. Miller
Project Director

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SUMMARY

National Program Development Institutes in Technical Education

The phenomenal nationwide growth in technical education, prompted by the demand for greater numbers of technicians, has brought about an increasing need for leadership personnel in technical education. The critical need for leadership has been expressed in many professional meetings and publications. Sound and continuous program growth in technical education hinges upon both the quantity and quality of leaders in the field. The 1968 National Program Development Institutes were a refinement of a series of summer institutes designed to meet this demand to improve the leadership and program development in technical education.

Number of Institutes: Two

Number of Participants: 89 (40 per Michigan - 49 per Texas)

Institute Locations
and Directors:

University of Michigan, Ann Arbor,
Michigan. June 9-21, 1960

Joseph P. Arnold, Institute Co-Director
Norman C. Harris, Institute Co-Director

James Connally Technical Institute,
Texas A and M University, Waco, Texas.
August 5-16, 1968

Roy W. Dugger, Institute Co-Director
Charles R. Cozzens, Institute Co-Director

Purpose of Institutes: To develop and improve the understanding of the philosophy of Technical Education, the administrative leadership role in Technical Education, and how this role relates to program planning and development of Technical Education leadership potential within the states through in-service training.

Participants:

Newly appointed administrators of technician training programs, and those with state level administrative responsibility for occupational training areas which impinge upon Technical Education. This would include the following:

1. New state supervisors and assistant state supervisors of Technical Education.
2. Junior-Community college and Technical Institute senior administrators, deans and assistant deans.
3. New and inexperienced Technical Education teacher educators.
4. Local Level Technical Education supervisors where large administrative units are involved.

Content

The general outline of the institutes program content in terms of broad topic headings and the anticipated time allotments for each topic are as follows:

<u>Major Topics</u>	<u>Hours</u>
The Rationale and Need for Technical Education	9
Administrative Structures for Technical Education Institutions	15
Staffing Technical Education Programs	12
Facilities and Equipment for Technical Education Programming	12
National, State and Local Resources for Program Support	<u>12</u>
TOTAL	60

After an orientation session at the beginning of the institutes, the order of presentation of topics were determined by the individual institutions. This flexibility was essential for maximum utilization of available speakers, consultants, resource persons, and for the scheduling of the field trip. The training program for the institutes at both campus locations operated full time for two weeks, and included the following activities:

- A. Orientation session. An orientation-briefing session was scheduled for the beginning of each institute. This session also included a "kick off" presentation by a recognized authority from industry, technology, education or labor varying according to the availability of such resource persons at the individual institute.
- B. Presentation-lecture. One to two hours of formal presentation by selected specialists and consultants were typically delivered on each of the scheduled on-campus days. A selected list of consultants and specialists, which includes appropriate names of the nation's foremost technical educators, technical education administrators, economists, sociologists, and technologists, were prepared for use by the institute directors in supplementing their roster of speakers, consultants and staff.
- C. Discussion. Approximately two to four hours per day were spent in group discussion focusing upon an identified program planning problem. The discussion, by the institute director and/or associate director included the institute speaker or consultant that were being utilized during that respective program topic. When available, other consultants were called in to participate in the discussion with, probably, no formal presentation delivered (e.g., a curriculum materials specialist invited to strengthen the discussion on evaluation of library resources and audio-visual facilities).

A detailed program content outline for the National Development Institutes is shown in the Appendix.

A portion of the discussion time each day was devoted to discussion and planning sessions involving groups of 6 to 12 participants and the institute consultants, the director and/or the associate director. In these sessions, the participants along with institute staff outlined practical in-service training applications of the day's presentation. These plans will form the participants blueprint for action in implementing in-service leadership training upon his return to his state staff position.

- D. Instructional materials and techniques. Under the direction of the coordinating institution, a variety of instructional materials (charts, transparencies, etc.) were prepared for elements of instruction during the institutes. A kit of materials was assembled for each participant. This kit included mimeographs, research reports, reprints, government publications, illustrations and other appropriate reference materials. Tele-lecture (telephone) and sound-motion picture equipment were available.
- E. Field trip. A field trip to a nearby technical education institution or industrial laboratory was planned for each of the institutes. The site visited was selected on the basis of its potential for stimulating discussion and contribution to the over-all educational goals of the institute.
- F. Small group work. The participants were divided into special interest groups with approximately four or five members in each group. These groups met and talked informally at meals and in afterclass conferences, made a free-time site-visit to a nearby facility of special interest, and on occasions had private meetings arranged with institute consultants and specialists.
- G. Individual study. Each participant was expected to spend from two to four hours per day in library study and/or small group discussion seeking solutions to the administrative, leadership, and program development problems. Each participant was asked to submit a report of his institute activities and plans. This report encouraged the participant to summarize his experiences and to think through the implications the training had for his own educational efforts. The report also included the individual's prospectus for extending the leadership development thrust of the institute.

The participants had available for their use a specially prepared compilation of institute materials. They also had the use of the technical education departmental library in addition to the excellent libraries on or adjacent to the campus of each of the host institutions.

H. Academic credit. The National Program Development Institutes in Technical Education were not designed as a college credit program. Successful completion of an institute program might, however, entitle the participant to academic credit, depending upon, (1) the status of the participant and (2) the host institution's policy and practice in granting credit for short term courses. Participants desiring college credit were advised to request specific information concerning credit from the director of the institution they were invited to attend. The director of each institute was supplied with an appropriately inscribed certificate that was issued to each participant upon his satisfactory completion of the course.

I. Schedule. The training for each of the two institutes was scheduled over a two-week period, beginning at 9 a.m. on Monday of the first week, ending at noon on Friday of the second week. The typical daily schedule of a participant was as follows:

<u>Hour</u>	<u>Activity</u>
7:00 - 9:00	Breakfast, individual preparation, special interest group assignment activities.
9:00 - 10:30	Lecture or formal presentation by resource person.
10:30 - 12:00	Group discussion with resource person from previous session present.
12:00 - 1:00	Lunch
1:00 - 3:00	Group discussion and practicum led by institute director, resource person or consultant for that topic, and other appropriate outside resource personnel.

3:00 - 4:30

Special interest group activity period - may involve group discussion, group effort on structuring a report, preparing an item of material to be added to institute resources of preparing outlines for state in-service leadership training plans.

4:30 - 5:30

Free time, group recreation, individual consultation with host institution staff specialists.

5:30 - 7:00

Dinner

7:00 - 9:00

Library study, small group conferences with staff.

The field trip was scheduled for the entire day on the Saturday ending the first week of the institute. Scheduling the trip on a Saturday created less disruption to the institute instructional schedule as well as the daily operation of the institution or industry visited. Participants traveled by means of a chartered bus.

The two institutes were scheduled at times that were most advantageous (1) to the universities in terms of housing, staff, and facilities, and (2) to the participants in terms of work commitments.

Conclusions

The conclusions which have been developed are presented in following statements:

1. The geographical mix of participants promoted valuable exchanges of information about technical education.
2. Selection of participants provided cross-sectional variety of service areas, institutional classifications and professional position classifications.
3. Evaluation results indicated that participants were generally well pleased with the presentations and overall operation of the institutes.
4. There was some evidence that participants planned to implement positive program change as a result of having attended the institute.
5. The consortium approach, with The Center serving as the coordinating agency, was successful in planning, developing, implementing and evaluating the institutes according to the findings of the project evaluation and post-institute evaluation by institute directors.

Recommendations

Based on the experience of the two institutes conducted in 1968 and the project evaluation, (see Method Section) the following recommendations are offered regarding the nature and need for future training projects in technical education.

1. A study should be conducted on how to attract participants from new and developing institutions.
2. Institutions sponsoring 1968 institutes should be encouraged to sponsor institutes providing for continuation of leadership development training programs.
3. The consortium approach in training projects with national advisory services, centralized coordination for program planning, instructional materials development, recruitment and selection of participants and project evaluation should be continued.

4. Leadership and program development training in technical education, supported by federal funds and national advisory services should be continued.

INTRODUCTION

Need for the Project

An abiding concern in Technical Education is the serious shortage of qualified personnel to assume positions of administrative leadership at the national, state, and local levels. This need has been most recently expressed by Technical Education administrative, supervisory, and teacher education representatives to the five 1966 and four 1967 National Leadership Development Institutes in Technical Education. At these nine institutes an overwhelming majority of these people indicated that a shortage of trained leadership personnel was probably the most critical factor impeding the development of technical education programs in their state.

The National Program Development Institutes conducted during the summer of 1968 build upon the evaluation and refinement of the institute programs conducted in 1966 and 1967. These previous efforts were found to be quite successful in motivating the participants to strengthen their total efforts in Technical Education upon returning to their respective states.

Purpose of the Project

The purpose of the project was to plan, conduct, and evaluate two regional institutes designed to accelerate the development of leadership and programming in Technical Education throughout the nation. These two institutes provided the basic theoretical and philosophical concepts and the fundamental principles of effective program development and operation for participants with present state and local administrative or supervisory responsibility for Technical Education and for those with proven leadership potential who are about to be employed in an administrative or supervisory capacity in Technical Education.

Objectives

- A. To provide a vehicle for the development and improvement of present and prospective leaders who are relatively inexperienced in the field of Technical Education program planning and development by developing their philosophy and understanding of the administrative leadership role in technical education, and how this role and its related administrative tasks relate to immediate and long range program planning and development, program implementation and evaluation, and the relationships of Technical Education to other occupational training areas and disciplines.

- B. To acquaint present and prospective leaders with principles and techniques related to effective communication and utilization of local, state, and national resource groups in developing programs in new and emerging technical occupations.
- C. To provide a mechanism whereby existing and potential Technical Education leadership personnel at the state level relatively experienced in the field of Technical Education, will develop and improve their understanding of the administrative role related to planned development of Technical Education Leadership potential within their state through in-service training.
- D. To provide an exemplary in-service leadership development and training program that will serve as a model for the development and implementation of similar programs at both the state and local levels, and thus develop the Technical Education leadership potential within the individual states.

Project Organization

The National Program Development Institutes in Technical Education was a consortium of the following institutions; The University of Michigan, The James Connally Technical Institute, and The Center for Vocational and Technical Education, The Ohio State University.

The Center served as the coordinating agency for:

1. designing the program
2. obtaining funds
3. preparing the core of institute staff
4. recommending consultants
5. collecting, preparing, and disseminating instructional materials
6. recruiting and selecting participants
7. evaluating activities
8. preparing the final report

Each of the two cooperating institutions sponsored a two-week institute with a pre-planned leadership training program for forty participants. The University of Michigan Institute was held at Ann Arbor, Michigan from June 9 to June 21, 1968. The James Connally Institute was held at Waco, Texas from August 5 to August 16, 1968. Both of these institutes were built around the successful content of the 1966 and 1967 institutes. Comprehensive evaluation of these previous efforts provided for the refinement of the prior program content to meet the needs of the 1968 institute participants.

METHOD

Selection of Participants

The previously mentioned committees (Institute Evaluation Committee and Institutes Materials Development Review Committee) established the following broad criteria to serve as guides in recruiting, selecting and attracting top quality participants for the National Program Development Institutes in Technical Education:

1. Administrative or supervisory responsibility and/or teacher educator in Technical Education, newly appointed or with limited experience.
2. Primary responsibility of appointment involves Technical Education.
3. Presently employed or about to become employed as a supervisor or administrator of Technical Education programs at the state level or the institutional or local level where large administrative units are involved.
4. Nominated for enrollment by their local administrator and appropriate state official.

The recruitment, selection, and invitational procedure followed this pattern:

Brochures prepared by the coordinating institution containing a list and description of the institute, criteria for selection of participants and application forms were sent to State Directors of Vocational Education and State Supervisors of Technical Education. Announcements containing the aforementioned details of the institute appeared in the following:

U. S. Office of Education Circular Letter
American Vocational Journal
Agricultural Education Magazine
American Association of Junior Colleges Journal
Technical Education News
American Association of School Administrators Journal
American Technical Education Association Newsletter
Journal of Engineering Education

State directors, University Teacher Trainers, U. S. Office of Education and Regional Field Office staff members were asked to share the information and assist in distributing the announcement brochure.

Upon receipt of the announcement of the institute, interested individuals submitted their names and request for an application form to the project coordinator.

A considerably larger number of eligible persons submitted applications than could be accommodated. Forty individuals were accepted at each of the two institutes. An additional nine persons attended the Texas Institute at their own expense. The interest coupled with enrollment limitations made it doubly important that individuals were selected who demonstrated leadership qualities and who were in a position to both benefit from the institute and also to assist with similar leadership training activities in their own states.

Responsibility for screening the applicants and making final selection of participants rested with a committee consisting of the following: the project coordinator, the institute co-directors, and a representative from the Division of Vocational and Technical Education, U. S. Office of Education. This committee, with assistance of other knowledgeable technical educators as required, and using the established criteria and the information submitted on the application, screened the applicants, selected participants and alternates, and made assignments of individuals to one of the two institutes at least 60 days prior to the start of the institute.

Facilities

The two institutes were held on the campuses of the host institutions. The institute hosted at The University of Michigan was conducted on the main Ann Arbor campus. The institute hosted by Texas A and M University was conducted on the James Connally Technical Institute campus located at Waco, Texas. These host institutions were selected on the basis of their demonstrated past efforts and interest in leadership development, their technical education supportive staff, the availability of expertise in related disciplines, and their ability to provide adequate classroom, housing and teaching facilities and equipment for the institutes.

Development of Evaluation Procedures and Instruments

The process of developing evaluation procedures and instruments was guided primarily by the first two objectives stated in the contract:

1. To provide a vehicle for the development and improvement of present and prospective leaders, relatively inexperienced in the field of Technical Education, by developing their understanding of the administrative leadership role in Technical Education, and how this role relates to long range program planning and development, program implementation and evaluation, philosophy, projections, innovations, and the relationships of Technical Education to other disciplines.
2. To provide a mechanism whereby existing and potential Technical Education leadership personnel at the state level relatively experienced in the field of Technical Education, will develop and improve their understanding of the administrative role of state supervisory staff and how this role specifically relates to program planning and evaluation, and the planned development of Technical Education leadership potential within their state through in-service training.

Proposed instruments and procedures for evaluation were prepared by Center staff members and were reviewed by the institute directors, associate directors, and consultants. The final forms were then printed and distributed to the institutes.

Description of the Evaluation Instruments

Instruments were developed in keeping with the first two objectives of the institutes previously mentioned and were designed to determine the participant's:

1. Gain in knowledge acquired from the institute.
2. Plans to utilize knowledge gained to affect positive program change.
3. Satisfaction with the content, presentation and operation of the institute.

In addition to the evaluation instruments, considerable personal data were obtained from the application forms including the name, age, address, present position, present duties and responsibilities of the applicant; professional and non-educational employment record; educational background; and long range goals of the applicant. These data provided an overview of the leadership potential in technical education, provided guidance for the institute directors on areas of content needing greatest stress, and provided guidelines for use in planning and evaluating future leadership training institutes.

The three instruments developed and used in the institutes are described below:

Participant's Self-Appraisal - The participant self-appraisal form was developed to be used as pre-test and post-test evaluation instrument. This scale requested participants to assess their knowledge of selected topics at the beginning of the institutes and again at the end of the institutes. Each participant was asked to appraise his knowledge by using a five-point scale in which a rating of one meant that he did not feel knowledgeable concerning the topic and a rating of five meant that he felt highly knowledgeable concerning the topic. This instrument was developed to assess the gain in knowledge acquired by the participant from the institute.

Evaluation of Presentations - This instrument was developed to assess the participants' evaluation of institute presentations on two occasions - on Friday of the first week and on Thursday of the second week. The participants were requested to evaluate six aspects of the presentation on a five-point scale (1 = poor, and 5 = excellent). The six aspects were quality of presentations, content of presentations, new concepts gained, quality of instructional materials, discussion opportunities, and variety of topics covered.

Participant's Professional Objectives - This instrument asked the participants to respond to a number of stated professional objectives by indicating whether they felt the objectives were either immediate (within the next two years) or long range objectives. Scores on this instrument were analyzed and interpreted as indicators of the success of the institutes. However, the data obtained will be used, primarily, in the follow-up of the participants to determine the extent to which they have reached their professional objectives.

Project Evaluation

The project evaluation was both objective and subjective in nature and was designed primarily to determine the participant's:

1. Gain in knowledge acquired from the institute.
2. Plans to utilize knowledge gained to affect positive program change.
3. Satisfaction with the content, presentation and operation of the institute.

Data used in evaluating the institutes were collected from the two participating institutes and were derived from the instruments below:

1. The application for participants.
2. The participant's self-appraisal form institutes as a pre-test and post-test.
3. Evaluation of presentations form.
4. The participant's professional objectives form.

Electronic data processing equipment was used in the data reduction. The programs selected to process the data were determined by analyzing the previously stated objectives for the project evaluation. A description of electronic data processing programs and the procedures are presented in the following paragraphs.

Description of Participants - The biographical data, which were collected on participants through the application form were analyzed to obtain a description of participants in terms of:

1. Age grouping
2. Present position classification
3. State representation
4. Institutional classification
5. Length of service in present position
6. Professional education work experience (years)
7. Non-education work experience classification
8. Non-education work experience (years)
9. Highest degree earned
10. Degree major area
11. Type of institute applied for
12. Sex grouping

Participant's Gain in Knowledge - To obtain a measure of the participant's gain in knowledge, for each classification group in the Participant's Self-Appraisal (pre-test and post-test), a frequency count and a percentage response for each response level for each question was requested. A comparison of the responses of participants between the two test administrations (pre-test and post-test) to the same question was also obtained. The Ohio State Questionnaire Analysis was used and included a comparison for each item on the questionnaire, the mean answer of both groups, and the difference of the means.

The following kinds of scores were obtained by processing data from the participant's self-appraisal instrument:

1. Summary of the average pre-test scores for the institutes.
2. Summary of the average post-test scores for the institutes.
3. Participant's average gain score from pre-test to post-test.
4. Average percentage of gain by participants from pre-test to post-test.
5. Average percentage of gain by participants from pre-test to post-test by present position classification.
6. Average percentage of gain by participants from pre-test to post-test by participants' highest degree earned.

FINDINGS AND ANALYSIS

The findings of the project evaluation and analysis of data are presented in the following tables. Each table is preceded by some interpretation.

Description of Participants

Table 1 shows the distribution of participants in age groups; the fewer numbers being at either end and the concentrations in the middle. The three age groupings within the total age range of 35 to 49 have 63.14 percent of the participants. The highest number of participants in any group was 26 participants in the 40-44 years of age category.

TABLE 1

FREQUENCY COUNT AND PERCENT OF PARTICIPANTS BY AGE

Age	Frequency	Percentage
25 - 29	4	4.49
30 - 34	12	13.48
35 - 39	15	16.85
40 - 44	26	29.21
45 - 49	16	17.98
50 - 54	10	11.24
55 and over	<u>6</u>	<u>6.74</u>
TOTALS	89.*	100.00

*This total number of 89 participants used in all of the tables includes 9 persons who attended the Texas Institute at their own expense.

Participant Present Position Classification

Table 2 shows that the position categories of local Administration, Teacher Education, and Department Head had the highest frequencies - 27, 19, 13 respectively. These three accounted for a total of 66.30 percent of the participants. The remaining 33.70 percent are distributed among the other seven groupings.

TABLE 2
FREQUENCY COUNT AND PERCENT OF PARTICIPANTS
BY PRESENT POSITION TITLE

Title	Frequency	Percentage
State Administration	4	4.49
Local Administration	27	30.34
State Supervision	3	3.37
Local Supervision	8	8.99
Teacher Education	19	21.35
Department Head	13	14.61
Instruction	8	8.99
Curriculum	2	2.25
Research	3	3.37
Other	<u>2</u>	<u>2.25</u>
TOTALS	89	100.00

Sex Classification

Table 3 indicates the predominance of male participants at the institute.

TABLE 3
FREQUENCY COUNT AND PERCENT OF PARTICIPANTS BY SEX

Sex	Frequency	Percentage
Male	87	97.75
Female	<u>2</u>	<u>2.25</u>
TOTALS	89	100.00

State Representation by Participants

Table 4 indicates the distribution of participants by states. A total of 37 states were represented at both institutes. The highest concentration of institute participants was from the states of Texas, Connecticut, and Michigan. These states had 28.09 percent of the participants.

TABLE 4

FREQUENCY COUNT AND PERCENT OF PARTICIPANTS BY STATE

State	Frequency	Percentage
Texas	14	14.61
Connecticut	6	6.74
Michigan	6	6.74
Kansas	4	4.49
New York	4	4.49
North Carolina	4	4.49
West Virginia	4	4.49
California	3	3.37
Illinois	3	3.37
Iowa	3	3.37
New Jersey	3	3.37
Ohio	3	3.37
Wisconsin	3	3.37
Arizona	2	2.25
Idaho	2	2.25
Kentucky	2	2.25
South Dakota	2	2.25
Utah	2	2.25
Arizona, Canada, Colorado, Delaware, Florida, Louisiana, Massachusetts, Minnesota, Mississippi, Missouri, Nevada, New Hampshire, New Mexico, Oklahoma, Pennsylvania, Puerto Rico, South Carolina, Tennessee, Virginia	1 each or 19 total	1.12 each or 20.28 total
TOTALS	89	100.00

Institute Classification

Table 5 lists six possible categories of institutions in which the participants were employed. The first three, University or College (4 year), Community or Junior College (2 year), and Technical Institute are all post-secondary schools, and have 80.90 percent of the participants. The remaining 19.10 percent are in secondary school or other groups.

TABLE 5
FREQUENCY COUNT AND PERCENT OF PARTICIPANTS
BY INSTITUTION CLASSIFICATION

Institution Classification	Frequency	Percentage
University or College (4 year)	28	31.46
Community or Junior College (2 year)	23	25.84
Technical Institute	21	23.60
Area Vocational-Technical School	5	5.62
High School - Comprehensive	4	4.49
Other (State Department included)	<u>8</u>	<u>8.99</u>
TOTALS	89	100.00

Participant Length of Service in Present Position

Table 6 shows that 68 or 76.40 percent of the institutes' participants were in their present position from one to three years. Another 13 or 14.61 percent were in their position for four to seven years. These two groups - combining service from one to seven years - represent 81 or 91.01 percent have been in their present positions for eight or more years.

TABLE 6
FREQUENCY COUNT AND PERCENT OF PARTICIPANTS
LENGTH OF SERVICE IN PRESENT POSITION

Length of Service	Frequency	Percentage
1 - 3 years	68	76.40
4 - 7 years	13	14.61
8 - 11 years	2	2.25
12 - 15 years	3	3.37
15 and over	<u>3</u>	<u>3.37</u>
TOTALS	89	100.00

Professional Education Work Experience

Table 7 has five categories of total years' professional education work experience of participants. The modal category is 11 to 15 years. In it 25 or 28.09 percent of the participants are found. The remaining groups have substantial numbers in each with the lowest being 10 or 11. 24 percent in the 21 years and over.

TABLE 7

FREQUENCY COUNT AND PERCENT OF PARTICIPANT PROFESSIONAL
EDUCATION WORK EXPERIENCE IN TOTAL YEARS

Total Years	Frequency	Percentage
1 - 5	17	17.10
6 - 10	21	23.60
11 - 15	25	28.09
16 - 20	16	17.98
21 and over	<u>10</u>	<u>11.24</u>
TOTALS	89	100.00

Participant Non-Educational Work Experience

Table 8 shows the highest frequency of participants - 26 or 29.21 percent being in the Technical non-educational work experience category. Two other areas, Industry and Business, have 15 (16.85%) and 12 (13.48%) participants. These three groups account for 53 or 59.54 percent of the total people.

TABLE 8

FREQUENCY COUNT AND PERCENT OF PARTICIPANT
NON-EDUCATIONAL WORK EXPERIENCE CLASSIFICATION

Classification	Frequency	Percentage
Industry	15	16.85
Agricultural	2	2.25
Business	12	13.48
Distributive	3	3.37
Health	2	2.25
Technical	26	29.21
Engineering and Science	7	7.87
Other	<u>22</u>	<u>24.72</u>
TOTALS	89	100.00

Participant Non-Educational Work Experience

Table 9 groups total years' non-educational work experience of the institutes participants into five categories. The first three contain 74 or 83.14 percent of participants. The highest single frequency occurs in the group 4 to 7 years - 30 or 33.71 percent. More than half of the participants have seven years or less non-educational work experience while less than half have eight years or more.

TABLE 9
FREQUENCY COUNT AND PERCENT OF PARTICIPANT
NON-EDUCATIONAL WORK EXPERIENCE IN TOTAL YEARS

Total Years	Frequency	Percentage
1 - 3	26	29.21
4 - 7	30	33.71
8 - 11	18	20.22
12 - 15	4	4.49
16 and over	<u>11</u>	<u>12.36</u>
TOTALS	89	100.00

Highest Degree Earned

Table 10 lists four categories of educational attainment in terms of degrees earned. The predominant degree held is the Masters with 55 or 61.80 percent of the participants possessing this degree. Considerably more than half, 76 or 85.39 percent, of the participants have earned a Masters degree or higher

TABLE 10
FREQUENCY COUNT AND PERCENT OF PARTICIPANT
HIGHEST DEGREE EARNED

Degree	Frequency	Percentage
Ph.D. or Ed.D.	18	20.22
Masters	55	61.80
B.S. or B.A.	13	14.61
Education Specialist	<u>3</u>	<u>3.37</u>
TOTALS	89	100.00

Degree Work and Major Field Concentration

Table 11 shows the four earned degrees as headings and the major field concentration areas listed beside them. Highest frequencies are in the Masters group. Trade and Industrial major has 19 (21.35%); Administration has 9 (10.11%); Vocational has 8 (8.99%); and Math - Science has 6 (6.74%). The remaining 47 or 52.81 percent of the participants are scattered throughout the remaining categories.

TABLE 11

FREQUENCY COUNT AND PERCENT OF PARTICIPANT
MAJOR FIELD CONCENTRATION IN DEGREE WORK

Degree and Major		Frequency	Percentage
<u>B.S. or B.A.:</u>	Agriculture	1	1.12
	Health	1	1.12
	Math - Science	2	2.25
	Industrial Arts	1	1.12
	Technical	1	1.12
	Trade and Industrial	3	3.37
	Other	4	4.49
<u>Masters:</u>	Administration	9	10.11
	Business	5	5.62
	Engineering	4	4.49
	Math - Science	6	6.74
	Social Science	1	1.12
	Technical	2	2.25
	Trade and Industrial	19	21.35
	Vocational	8	8.99
	Other	2	2.25
<u>Ph.D. or Ed.D.:</u>	Administration	4	4.49
	Business	1	1.12
	Math - Science	1	1.12
	Trade and Industrial	5	5.62
	Vocational	3	3.37
	Other	3	3.37
<u>Education Specialist</u>		<u>3</u>	<u>3.37</u>
TOTALS		89	100.00

Applications to Type of Institute

Table 12 shows that over 95 percent of the participants wanted to attend a particular institute location. Only 4 applicants indicated that their assignment to either institute would be acceptable.

TABLE 12
PARTICIPANT INSTITUTE APPLICATIONS

Application To	Frequency	Percentage
Michigan	40	44.94
Texas	45	50.56
Either	<u>4</u>	<u>4.49</u>
TOTALS	89	100.00

PARTICIPANT PERFORMANCE ON EVALUATION INSTRUMENTS

Evaluation of Presentations

Table 13 shows participant mean scores, by institute, and total for each week and for an average of both weeks. A scoring code range is given at the bottom of the table. Texas participants had a higher mean score in each column - 4.02, 4.05, and 4.035, respectively. They also made only a slight increase in rating presentations - 4.02 to 4.05 from the first to second weeks. The ratings of both institute participants was much closer - 3.98 and 4.05 - for the second week.

TABLE 13
EVALUATION OF PRESENTATIONS

Institute	First Week	Second Week	First and Second Weeks
Michigan Participants Mean Score	3.30	3.98	3.64
Texas Participants Mean Score	4.02	4.05	4.035
Total Participants Mean Score	3.66	4.015	3.837
Scoring Code Range: 1 = Poor 5 = Excellent			

Participant Self-Appraisal

Table 14 shows percent gain between pre-test and post-test scores by participants. These percent gains are further separated by the participants' present position classifications. Considerable gain is shown in each category except Michigan "Department Head" (0.35%) and "Other" (-36.46%). There were no participants in the Michigan institute classified as "Local Supervisor" which resulted in the 0.0% gain. It appears as if "Teachers" (29.61%) and "Local Directors" (25.78%) as a group of participants made the greatest gains. Participants classified as other were from research coordinating units, full-time research positions and other categories outside of technical education. The negative gain may be attributed to the fact that participants over rated their understanding on the pre-test (Participants' Self-Appraisal), but were more realistic in their personal assessment on the post-test.

TABLE 14

PARTICIPANT SELF-APPRAISAL PERCENT GAIN BY PRESENT POSITION CLASSIFICATION

Institute	Teacher	Department Head	Teacher Educator	Local Director	Local Supervisor	State Supervisor	Administrator	Other
Michigan Participants	19.32%	0.35%	12.31%	21.91%	0.0%	1.48%	27.98%	-36.46%
Texas Participants	35.79	26.81	28.64	27.22	36.75	25.40	20.24	31.40
Total Participants Average	29.61	19.76	20.47	25.78	18.37	17.43	25.17	28.78

Table 15 shows percent gain between pre-test and post-test, separated by participants' highest degree earned. All gains are clear except for Michigan "Education Specialist." This is because there were no participants classified as such. The degree group with the highest average gain (25.07%) were the "Masters." The Texas institute participants made consistent gains (27.10, 28.66, 21.87, and 19.10%) and were at the same time higher in each category than the Michigan participants.

TABLE 15
PARTICIPANT SELF-APPRAISAL PERCENT GAIN BY HIGHEST DEGREE EARNED

Institute	Ph.D. or Ed.D.	Masters	BA or BS	Education Specialist
Michigan Participants	12.66%	17.76%	10.67%	0.0%
Texas Participants	27.10	28.66	21.87	19.10
Total Participants Average	19.40	25.07	17.56	9.55

POST-INSTITUTE EVALUATION

The directors met with the project coordinator after the institutes to evaluate outcomes of the program and to identify program innovations and curriculum development projects which might have grown out of institute participation. Individual institute summaries were prepared and combined into one composite final project report.

Tentative plans were made for a Center sponsored follow-up and evaluation effort to be conducted at some future date. This future follow-up study would attempt to assess:

1. The effectiveness of the institutes in stimulating technical education interests and activities.
2. The effectiveness of the institute in accelerating the development of leadership via the "ripple effect" where the trainees go out from the training program and carry out additional programs in the states.
3. The effectiveness of The Center for Vocational and Technical Education in its role as consortium co-ordinator.

A future follow-up study might include the following:

1. A survey of the trainees assessing:
 - a. Their involvement in leadership training activities stimulated by the institute,
 - b. The extent of their involvement in research and development activities, and
 - c. The extent of other leadership development activity completed or underway including presentations, articles written, special reports, materials developed, etc.
2. A follow-up of the technical education divisions at the host institutions to assess the number and extent of new offerings, materials, development, training programs, research, etc., stimulated by the institutes.

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

The conclusions which have been developed are presented in following statements:

1. The geographical mix of participants promoted valuable exchanges of information about technical education.
2. Selection of participants provided cross-sectional variety of service areas, institutional classifications and professional position classifications.
3. Evaluation results indicated that participants were generally well pleased with the presentations and overall operation of the institutes.
4. There was some evidence that participants planned to implement positive program change as a result of having attended the institute.
5. The consortium approach, with The Center serving as the coordinating agency, was successful in planning, developing, implementing and evaluating the institutes according to the findings of the project evaluation and post-institute evaluation by institute directors.

Recommendations

Based on the experience of the two institutes conducted in 1968 and the project evaluation, (see Method Section) the following recommendations are offered regarding the nature and need for future training projects in technical education.

1. A study should be conducted on how to attract participants from new and developing institutions.
2. Institutions sponsoring 1968 institutes should be encouraged to sponsor institutes providing for continuation of leadership development training programs.
3. The consortium approach in training projects with national advisory services, centralized coordination for program planning, instructional materials development, recruitment and selection of participants and project evaluation should be continued.
4. Leadership and program development training in technical education, supported by federal funds and national advisory services should be continued.

APPENDIX I

Topical Outline - National Program Development Institutes in Technical Education

1. The Rationale and Need for Technical Education
 - A. Labor market trends: state, regional and national
 - B. Population growth trends
 - C. Rate of change in technology
 1. Changes in occupations and employment needs
 2. Changes in resources of techniques
 - D. Changing emphasis in occupational education
 1. Economic needs of individuals
 2. Programs to meet needs of various groups
 3. Criteria for student selection
 4. Sources of students
2. Administrative Structures for Technical Education Institutions
 - A. Public institutional structures
 - B. Private institutional structures
 - C. Administrative tasks and functions within the structure
 1. Program planning and curriculum development
 2. Budget considerations
 3. Inter-departmental communications
 4. Long-range program planning
 5. Accreditation considerations
 6. Inter and intra-institutional liaison and coordination
 7. Extra curricular activities and related facility considerations.

3. Staffing Technical Education Programs
 - A. Qualifications and characteristics of an effective staff
 - B. Instructional staff
 1. Qualifications
 2. Recruitment and sources
 3. Selection
 - C. In-service staff development programs
 - D. Long-range staff development
 1. Full-time staff
 2. Part-time staff
 - E. Coordination and planning with technical teacher education staffs and institutions
4. Facilities and Equipment for Technical Education Programming
 - A. Site considerations
 - B. Buildings and structures
 1. Types of construction
 2. Operation and maintenance considerations
 - C. Laboratory and equipment planning
 - D. Learning center - library considerations
 - E. Student and staff support facilities
5. National, State and Local Resources for Program Support
 - A. Communication for public understanding and support
 1. Advisory committees
 2. Professional organizations

3. Industry and labor support
 4. Legislative and political support
 5. Public and private agencies concerned with occupational training
- B. Current legislative considerations with implications for occupational education

APPENDIX II

National Program Development Institutes in Technical Education

List of Instructional Materials

Printed Materials

1. Center for Vocational and Technical Education. Compilation of Technical Education Materials. Columbus, Ohio: The Ohio State University, 1966. (Out of print)
 2. ** Compilation of Technical Education Materials, Supplement I. Columbus, Ohio: The Ohio State University, 1967.
 3. Compilation of Technical Education Materials, Supplement II. Columbus, Ohio: The Ohio State University, 1967.
 4. Review and Synthesis of Research in Technical Education. Columbus, Ohio: The Ohio State University, 1967.
 5. Manufacturing Chemists' Association. A Bright Future for You as a Chemical Technician. Washington, D. C.: The Author, 1966.
 6. Ogg, Elizabeth. Mental Health Jobs Today and Tomorrow. Public Affairs Pamphlet No. 384. Public Affairs Committee, Inc. in cooperation with The National Institute of Mental Health, 1966.
 7. Sun Life Assurance Company of Canada. Technical Education May be for You. Chicago, Illinois: (no date).
 8. U. S. Department of Health, Education, and Welfare, Office of Education. Basic Planning Guide for Vocational and Technical Education Facilities. Special Publication No. 11, GPO, 1965.
 9. Chemical Technology. Technical Education Program Series No. 5. GPO, 1964.
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** Author same as for preceding citation.

10. Civil Technology, Highway and Structural Options. Technical Education Program Series No. 8. GPO, 1966.
11. Division of Vocational and Technical Education. Criteria for Technician Education, A Suggested Guide (Draft). GPO, 1966.
12. Educating Disadvantaged Children in the Middle Grades. GPO, 1965.
13. Electrical Technology. Area Vocational Education Program, Series No. 1. GPO, 1960.
14. Electronic Technology. Area Vocational Education Program, Series No. 2. GPO, 1960.
15. Equality of Educational Opportunity. GPO, 1966.
16. Instrumentation Technology. Technical Education Program. Series No. 6. GPO, 1964.
17. Mechanical Technology, Design and Production Technical Education Program Series No. 3. GPO, 1962.
18. Division of Vocational and Technical Education. Pretechnical Post High School Programs, A Suggested Guide (Draft). GPO, 1966.
19. Program Evaluation and Review Technique. Cooperative Research Monograph No. 17. GPO, 1966.
20. The Youth We Haven't Served. GPO, 1966.

Audio-Visual Aids

21. The Center for Vocational and Technical Education. "Technical Education Transparencies." Columbus, Ohio: The Ohio State University. (32 transparencies).
22. Connecticut State Bureau of Technical Institutes. "Technicians for Tomorrow." (Filmstrip).
23. Ohio Board of Education, Division of Vocational Education, Guidance and Testing. "Vocational and Technical Education for a Changing World of Work." (Filmstrip).
24. "Your Future Through Vocational Education." (Filmstrip).

APPENDIX III

National Program Development Institutes
in Technical Education

Application

1. Name of Applicant: Mr. _____
Mrs. _____
2. Age: _____ Miss _____
(Last) (First) (Middle)
3. Home Address:
Street _____ City _____
State _____ Zip Code _____ Telephone _____
4. Name of Institution or Agency Where You are Presently Employed:

5. Institution Classification: (Check)
☐ University or College (4 year)
☐ Community or Junior College (2 year)
☐ Technical Institute
☐ Area Vocational-Technical School
☐ Technical High School
☐ High School - Comprehensive
☐ Other (State Department of Education, etc.) Please specify:

6. Business Address:
Street _____ City _____
State _____ Zip Code _____ Telephone _____
7. Present Position Title: _____
8. Present Position Classification: _____

☐ State Administration	☐ Department Head
☐ Local Administration	☐ Instruction
☐ State Supervision	☐ Curriculum
☐ Local Supervision	☐ Research
☐ Teacher Education	☐ Other

9. Present Position Duties: _____

10. Professional Education Employment Record. List experience in the field of education. (List most recent experience first and give the last four positions only).

<u>Position</u>	<u>Institution</u>	<u>City</u>	<u>State</u>	<u>No. of Years</u>
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11. Non-educational Employment Record. List experience in business, industry, government, Military Service, etc. (List most recent experience first).

<u>Position</u>	<u>Institution</u>	<u>City</u>	<u>State</u>	<u>No. of Years</u>
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12. Formal Education. Include Ph.D., Masters, Bachelors, and Associate degrees. (List most recent degree first).

<u>Institution</u>	<u>Degree</u>	<u>Year Received</u>	<u>Major Field</u>
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13. For which institute are you applying?

- ☐ University of Michigan
☐ James Connally Technical Institute, Texas A and M University

14. If selected, are you willing to attend the institute at either location?

☐ Yes ☐ No - If no, please explain: _____

15. List below the name(s) and address(es) of the person(s) whom you have asked to send recommendation sheets:

Name

Title

Address

(Local chief administrative officer when applicable)

(State official)

16. Date _____

Applicant's Signature _____

Send application to: Admissions Committee
National Program Development Institutes
in Technical Education
The Center for Vocational and Technical
Education
The Ohio State University
1900 Kenny Road
Columbus, Ohio 43210

Participant
Number _____

APPENDIX IV

National Program Development Institutes in Technical Education

Participant's Self-Appraisal

(Pre-Test and Post-Test)

DIRECTIONS: Please appraise what you feel is your present knowledge of the technical education topics listed below. Circle the number which indicates your degree of present knowledge.

	Very Little Knowledge	Little Knowledge	Some Knowledge	Much Knowledge	Very Highly Knowledgeable
<u>Rationale and Need for Technical Education</u>					
1. Present and future demand for technicians	1	2	3	4	5
2. Technician placement patterns	1	2	3	4	5
3. New and emerging areas of technician employment	1	2	3	4	5
4. Size of current technical school enrollments	1	2	3	4	5
5. Economic and social needs for technician education	1	2	3	4	5

	Very Little Knowledge	Little Knowledge	Some Knowledge	Much Knowledge	Very Highly Knowledgeable
<u>Role of Technicians</u>					
6. Various levels of technical training	1	2	3	4	5
7. Fields of the "Work world" in which technicians are employed	1	2	3	4	5
8. The place of the technician in the occupational spectrum	1	2	3	4	5
9. Difference between the "professional" and the technician	1	2	3	4	5
10. The difference between the technician and the skilled employee	1	2	3	4	5
<u>Administrative Structure of Technical Education</u>					
<u>Institutions</u>					
11. The development and operation of statewide plans for technical education	1	2	3	4	5
12. The relations of individual institutions to state master plans	1	2	3	4	5
13. The federal, state, and local relationships for technical education	1	2	3	4	5
14. Different organizational structures of local programs of technical education	1	2	3	4	5
15. Accreditation procedures for technical education	1	2	3	4	5

		Very Little Knowledge	Little Knowledge	Some Knowledge	Much Knowledge	Very Highly Knowledgeable
<u>Description of the Technical Education Student</u>						
16.	Program variations necessary with different student age levels	1	2	3	4	5
17.	Selection criteria for technical education students	1	2	3	4	5
18.	Sources of students for technical education	1	2	3	4	5
19.	Means of determining the number of potential	1	2	3	4	5
20.	Desirable recruiting practices	1	2	3	4	5
<u>Program Patterns and Curriculum Development</u>						
21.	Interrelationships of laboratory and shop courses with science and mathematics	1	2	3	4	5
22.	The use of advisory committees in planning technical programs	1	2	3	4	5
23.	The cluster approach in curriculum development	1	2	3	4	5
24.	Curricula for the various offerings in technical education	1	2	3	4	5
25.	Steps in curriculum development through occupational analysis	1	2	3	4	5

	Very Little Knowledge	Little Knowledge	Some Knowledge	Much Knowledge	Very Highly Knowledgeable
<u>Facilities and Equipment for Technical Education</u>					
<u>Programs</u>					
26. Educational specifications	1	2	3	4	5
27. Building sites for technical education programs	1	2	3	4	5
28. Equipment requirements for various technical education programs	1	2	3	4	5
29. Modern media used in instructional programs	1	2	3	4	5
30. Role of school staff in planning facilities and equipment	1	2	3	4	5
<u>Financing Technical Education Programs</u>					
31. Capital outlay for site, buildings, and equipment	1	2	3	4	5
32. Cost per student per year	1	2	3	4	5
33. Financing patterns	1	2	3	4	5
34. Annual operating costs	1	2	3	4	5
35. Personnel costs	1	2	3	4	5
<u>Staffing Technical Education Programs</u>					
36. Necessary qualifications of instructional staff	1	2	3	4	5
37. Necessary qualifications of supervisory personnel	1	2	3	4	5

	Very Little Knowledge	Little Knowledge	Some Knowledge	Much Knowledge	Very Highly Knowledgeable
38. Various sources of personnel	1	2	3	4	5
39. Teacher recruitment procedures	1	2	3	4	5
40. Teacher selection criteria	1	2	3	4	5
<u>Technical Education Supervision and Teacher Education</u>					
41. Evaluation	1	2	3	4	5
42. Curriculum improvement	1	2	3	4	5
43. Certification of technical education teachers and supervisors	1	2	3	4	5
44. Programs for developing teaching skills	1	2	3	4	5
45. Programs for upgrading technical competence of instructors	1	2	3	4	5
<u>Programs for Groups with Special Needs</u>					
46. Special requirements for teachers	1	2	3	4	5
47. Characteristics of socio-economically handicapped	1	2	3	4	5
48. Ancillary services and community resources available for programs for the disadvantaged	1	2	3	4	5
<u>Research</u>					
49. Current research activities in technical education	1	2	3	4	5
50. Administration of research activities	1	2	3	4	5

APPENDIX V

National Program Development Institutes in Technical Education

Evaluation of Presentations

First Week

DIRECTIONS: Indicate on the five point scale below your opinion of the following aspects of the institute. Circling 1 indicates a rating of "poor," and circling 5 indicates a rating of "excellent."

	<u>Poor</u>				<u>Excel- lent</u>
1. Quality of presentations	1	2	3	4	5
2. Content of presentations	1	2	3	4	5
3. New concepts gained	1	2	3	4	5
4. Quality of instructional materials	1	2	3	4	5
5. Discussion opportunities	1	2	3	4	5
6. Variety of topics covered	1	2	3	4	5

Comments: _____

APPENDIX VI

National Program Development Institutes in Technical Education

Evaluation of Presentations

Second Week

DIRECTIONS: Indicate on the five point scale below your opinion of the following aspects of the institute. Circling 1 indicates a rating of "poor," and circling 5 indicates a rating of "excellent."

	<u>Poor</u>				<u>Excel- lent</u>
1. Quality of presentations	1	2	3	4	5
2. Content of presentations	1	2	3	4	5
3. New concepts gained	1	2	3	4	5
4. Quality of instructional materials	1	2	3	4	5
5. Discussion opportunities	1	2	3	4	5
6. Variety of topics covered	1	2	3	4	5

Comments: _____

Participant
Number _____

APPENDIX VII

National Program Development Institutes in Technical Education

Participant's Professional Objectives

My present position is that of (check one):

- ☐ Teacher
- ☐ Department Head or Chairman
- ☐ Teacher Educator
- ☐ Researcher
- ☐ Local Director
- ☐ Local Supervisor
- ☐ State Supervisory Position
- ☐ Administrator in Post-High School Position
- ☐ Other (please indicate) _____

DIRECTIONS: Please indicate your immediate and long-range professional objectives below by circling the responses only where they are applicable.

Professional Objectives:

1. To continue to do my best in my present position
2. To become an outstanding teacher

Immediate Objectives (Within next 2 yrs.)	Long-Range Objectives	Not Applicable
1	2	3
1	2	3

	Immediate Objectives	Long-Range Objectives	Not Applicable
3. To work on an advanced degree	1	2	3
4. To finish my present assignment and move to a more challenging position	1	2	3
5. To improve technical education programs in my present position	1	2	3
6. To plan and develop new technical education programs	1	2	3
7. To move to a larger and more responsible position	1	2	3
8. To become a department head or chairman	1	2	3
9. To develop technical education cooperative programs with industry	1	2	3
10. To become a local supervisor	1	2	3
11. To become an administrator in a technical division of a technical institute or community college	1	2	3
12. To become a state supervisor	1	2	3
13. To become a teacher educator at a college or university	1	2	3
14. To work in a research position	1	2	3
15. To develop in-service training programs for state or local staff	1	2	3
16. To move into a top-level state administrative position	1	2	3
17. To develop new or improved technical education facilities	1	2	3

	Immediate Objectives	Long-Range Objectives	Not Applicable
18. To work actively toward legislative change in my state that will allow better technical education	1	2	3
19. To become the top administrator in a technical institute or a collegiate institution	1	2	3
20. To help develop and advance technical education in foreign countries	1	2	3
21. Other (please describe): _____			

APPENDIX VIII

National Program Development Institutes in Technical Education

Recorder-Evaluator Instructions

Duties of the Recorder

1. Keep a record of participant attendance.
2. Collect two copies of any teaching aids (papers, charts, booklets, etc.) distributed to participants. One copy of the collected materials should be sent to The Center, and one copy should be retained as institute copy.
3. Keep a record of items that come up in discussion which should be treated at some time during the institute. Discuss these items with the institute director.
4. Arrange to have pictures made of participants and staff at the institute.
5. It is the responsibility of the recorder-evaluator to submit a summary of each presentation as prepared or approved by the presenter. In addition, the recorder-evaluator should include a copy of the complete presentation when one is available. The following information should be included in the summary:
 - a. Title of presentation.
 - b. Presenter's full name, title, and address.
 - c. Date of presentation.

If any important work or document is cited in the original paper, it is necessary to indicate in the summary of the presentation, the complete title of document, source, and author.

6. Prepare the final report for the institute according to the established format and send it to The Center in duplicate by September 1, 1968.

Duties of the Evaluator

1. Distribute and collect all evaluation instruments.
2. Give the participants instructions on how to complete each evaluation instrument.
3. Tabulate results of the participants' Evaluations of Presentations (Form O3-white copy) for use by institute director.

Schedule and Procedures for the Evaluator

1. Obtain a roster of participants and assign a code number for each participant. Prepare a 3 x 5 card with the participant's name on one side and his personal code number on the reverse side. The following code numbers are assigned to the various institutes:

University of Michigan	100
Texas A & M - James Connally Technical Institute	200

A roster of participants with the proper code numbers must accompany the materials sent to The Center.

2. Introduction. During the first morning of the institute, the institute director should introduce the idea of evaluation, comment on the need for it, and clarify its purpose.
3. Give each participant the card with his name and personal code number. Request that he keep the card and record his number on each evaluation form completed during the institute.
4. Pre-Test (Participant's Self-Appraisal). Form O1-G should be administered and collected Monday morning of the first week. This procedure should be followed:
 - a. Distribute instruments and IBM answer cards.
 - b. Request each participant to write his code number in the space for "student number" on the front of the IBM answer card. The number "1" should be written in the space for "sequence number."

- c. Read the directions to participants and clarify any questions. Participants will not write on the Self-Appraisal form. Their answers should be placed on the IBM answer cards.
 - d. Administer test.
 - e. Collect the completed cards and test forms. Check that each card has a participant code number and that there are no omissions or duplications of numbers recorded in the code range assigned.
5. Participant's Present Program Activities. Form 02 should also be administered and collected Monday morning of the first week. This procedure should be followed:
- a. Distribute the instruments and IBM answer cards.
 - b. Request each participant to write his code number in the space for "student number" on the front of the IBM answer card. The number "1" should also be written in the space for "sequence number."
 - c. Read the directions to participants and clarify any questions. Participants will not write on the Present Program Activities form. Answers should be placed on IBM answer cards.
 - d. Administer Form 02.
 - e. Collect the completed cards and test forms. Check each card for code number and for omissions and duplications.
6. Evaluation of Presentations. Administer and collect Evaluation of Presentations (Form 03) on Friday of the first week and Thursday of the second week. This procedure should be followed:
- a. Distribute instruments to participants and institute staff. (White copy for participants, yellow copy for staff).
 - b. Request that participants put their code numbers in the upper right hand corner of the page and indicate first or second week in the upper left hand corner.

- c. Read the directions to participants, suggest that participants make comments in the space provided and clarify any questions about the form.
 - d. Administer Form 03.
 - e. Collect completed instruments. Check to see that each has a code number and that the week is identified.
7. Participant's Planned Program Activities. Administer and collect Participant's Planned Program Activities (Form 04) on Thursday of the last week. This is the procedure to follow:
- a. Distribute the instruments and IBM cards.
 - b. Ask participants to write code number in the space for "student number" on the front of the IBM answer card. The number "2" should be written in the space for "sequence number."
 - c. Read the directions to the participants and clarify any questions. Participants will not write on the form. The answers should be placed on the IBM answer cards.
 - d. Administer Form 04.
 - e. Collect the completed cards and test forms. Check for code numbers, omissions, and duplications.
8. Participant's Professional Objectives. Administer and collect Participant's Professional Objectives (Form 05) on Thursday of the last week. The procedure to be followed is:
- a. Distribute the instruments.
 - b. Ask the participants to put their code number in the upper right hand corner. Also ask them to indicate their present position title in the space provided.
 - c. Read the directions to the participants and clarify any questions.
 - d. Administer Form 05.

- e. Collect completed instruments and check for code numbers.
9. Post-Test (Participant's Self-Appraisal). Form 01-G should be administered and collected on Thursday of the last week. Use the following procedure:
- a. Distribute instruments and IBM answer cards.
 - b. Request each participant to write his code number on the space for "student number" on the front of the IBM answer card. The number "2" should be written in the space for "sequence number."
 - c. Read the directions to participants and clarify any questions. Participants should not write on the Self-Appraisal form. Their answers should be placed on the IBM answer cards.
 - d. Administer test.
 - e. Collect the completed cards and test forms. Check that each card has a participant code number and that there are no omissions or duplications of numbers recorded in the code range assigned.
10. All evaluation instruments and cards should be sent to The Center at the close of the institutes. The IBM cards should be assembled in individual packets according to the instrument to which they apply. The individual packets should then be labeled as "Pre-Test," "Post-Test," "Participant's Present Program Activities," and "Participant's Planned Program Activities." The evaluation instruments should be packaged sequentially (Participant number) by each instrument.

APPENDIX IX

National Program Development Institute in Technical Education
University of Michigan, Ann Arbor
June 10-21, 1968

List of Participants

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APPENDIX X

National Program Development Institute in Technical Education
University of Michigan, Ann Arbor
June 10-21, 1968

Speakers and Consultants

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State Univ. of New York
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APPENDIX XI

National Program Development Institute in Technical Education
The University of Michigan, Ann Arbor
June 10-21, 1968

Agenda

All meetings are to be held in Room G103,
South Quadrangle, unless otherwise specified.

Sunday, June 9

Registration (South Quadrangle Lobby)	3:00-7:00
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Monday, June 10

Coffee and Introductions		8:30-9:30
Welcome to The University of Michigan	M. Radock	9:30-9:45
Institute Overview	J. Arnold	9:45-11:15
Evaluation Procedures	Staff	11:15-12:00
Lunch		12:00

Rationale for Technical Education

Technological Changes and Manpower Needs	D. Fellows	1:30-3:00
Functions of the Technician in Industry	W. Rhodes	3:30-4:30

Tuesday, June 11

Institute Procedures and Assignments	Staff	8:30-9:00
<u>Administrative Structures for Technical Education</u>	R. Wenrich G. McNelly	9:00-10:45
Panel of Project Staff and Consultants		11:15-12:00
Luncheon and Speaker (Dining Room 4, S. Quad.)		12:00

<u>Technical Level Occupations in the Cement and Allied Industries</u>	R. Chase	12:00
Participant Groups Review and Prepare for Reaction Panel		1:30-3:00
Panel	Participants	3:30-4:30
<u>Wednesday, June 12</u>		
Program Planning	P. Hunt	8:30-11:15
Panel of Project Staff and Consultants		11:15-12:00
Lunch		12:00
Participant Groups Review and Prepare for Reaction Panel		1:30-3:00
Panel		3:30-4:30
Special Programs and Preparation		7:00-8:30
<u>Thursday, June 13</u>		
<u>Staff Qualifications and Development</u>	J. Arnold	8:30-11:15
Panel of Project Staff and Consultants		11:15-12:00
Lunch		12:00
Participant Groups Review and Prepare for Reaction Panel		1:30-3:00
Panel		3:00-4:30
Evaluation (for first week)		3:30-4:30
Field Trip: Monroe Community College Monroe, Michigan		6:30-9:00
<u>Friday, June 14</u>		
Field Trip and Luncheon: Ford Motor Company (Rouge Plant) and Henry Ford Museum - Dearborn, Michigan		8:30-4:30

Monday, June 17

<u>Accreditation Organizations and Considerations</u>	N. Harris	8:30-11:15
Panel of Project Staff and Consultants		11:15-12:00
Lunch		12:00
Participant Groups Review and Prepare for Reaction Panel		1:30-3:00
Panel		3:30-4:30
Field Trip: Department of Industrial Education Eastern Michigan University Ypsilanti, Michigan		7:00-8:30

Tuesday, June 18

<u>Student Recruitment and Pretechnical Programs</u>		
Student Recruitment and Prerequisites	G. Whitney	8:30-11:15
A Pretechnical Program in Operation	A. Beagle	
Panel of Project Staff and Consultants		11:15-12:00
Lunch		12:00
Participant Groups Review and Prepare for Reaction Panel		1:30-3:00
Panel		3:30-4:30
<u>Community Service and Technical Education</u>	H. Ellis P. Davis	7:00-9:00

Wednesday, June 19

<u>National, State and Local Sources for Support</u>	R. Dugger	8:30-11:15
Panel of Project Staff and Consultants		11:15-12:00
Lunch		12:00

Participant Groups Review and Prepare
for Reaction Panel

1:30-3:00

Panel

3:30-4:30

Thursday, June 20

Facilities and Equipment Planning

H. Schantz

8:30-11:15

Panel of Project Staff and Consultants

11:15-12:00

Lunch

12:00

Participant Groups Review and Prepare
for Reaction Panel

1:30-3:00

Panel

3:30-4:30

Banquet (dining room 4, S. Quad.)

Management by Objectives

G. O'diorne

6:00-8:00

Friday, June 21

Group Reports and Summaries
Staff and Consultant Reviews

8:30-10:00

Evaluation

10:30-12:00

Dismissal

12:00

APPENDIX XII

National Program Development Institute in Technical Education
James Connally Technical Institute
Texas A and M University, Waco
August 5-16, 1968

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National Program Development Institute in Technical Education
James Connally Technical Institute
Texas A and M University, Waco
August 5-16, 1968

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APPENDIX XIII

National Program Development Institute in Technical Education
James Connally Technical Institute
Texas A and M University, Waco
August 5-16, 1968

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Waco, Texas

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James Connally Technical Institute
Waco, Texas

APPENDIX XIV

National Program Development Institute in Technical Education
James Connally Technical Institute
Texas A and M University, Waco
August 5-16, 1968

Agenda

Monday, August 5

Coffee and Introductions	Staff	8:30-9:30
Welcoming Address	M. S. Webb	9:30-9:45
Orientation and Objectives of the Institute	C. R. Cozzens	9:45-11:15
Reporting and Evaluation Procedures	Staff	11:15-12:00
Lunch (JCTI Dining Hall)		12:00-1:30
Presentation: Role, Scope, and Function of Technical Education Beyond High School	H. Provence	1:30-4:45
Evaluation	D. Bigham	4:45-5:00

Tuesday, August 6

Orientation to Institute Procedures	Staff	8:30-9:00
Presentation: Administrative Structures for Technical Education	J. Dobrovolny	9:00-12:00
Lunch (JCTI Dining Hall)		12:00-1:30
Participant Groups' Review Period	Staff	1:30-3:00
Panel Reaction	Staff	3:30-4:30
Evaluation	W. Biggam	4:30-5:00
Barbecue	Club House	6:00-8:30

Wednesday, August 7

Film: Technical Education Program Planning Challenge Accepted	Staff	8:30-9:00
Tour: General Dynamics Facility and James Connally Technical Institute	E. E. Finch C. R. Cozzens	9:00-12:00
Lunch (JCTI Dining Hall)		12:00-1:30
Presentation: Program Planning	J. Guemple	1:30-3:30
Discussion with Participants	J. Guemple JCTI Staff	4:00-4:45
Evaluation	R. Green	4:45-5:00

Thursday, August 8

Presentation: Staff Qualifications and Programs for Effective Staff Development	J. Arnold	8:30-11:15
Discussion with Participants	J. Arnold Staff	11:15-12:00
Lunch (JCTI Dining Hall)		12:00-1:30
Participant Groups' Review Period	Staff	1:30-3:00
Panel Reaction	Staff	3:30-4:30
Evaluation	R. Ross	4:30-5:00

Friday, August 9

Field Trip to Aerospace Medical Technology Center at San Antonio, Texas	Staff	To be Announced
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Monday, August 12

Presentation: Accreditation Organization and Considerations	N. Harris	8:30-11:15
Discussion with Participants	N. Harris and Staff	11:15-12:00
Lunch (JCTI Dining Hall)		12:00-1:30
Presentation: Technological Changes and New and Emerging Manpower Needs	P. Hamburger	1:30-3:00
Discussion with Participants	N. Harris and Staff	3:30-4:30
Evaluation	Staff	4:30-5:00

Tuesday, August 13

Presentation: Student Recruitment and Technical Development Programs	M. S. Webb	8:30-11:15
Discussion with Participants	M. S. Webb and Staff	11:15-12:00
Lunch (JCTI Dining Hall)		12:00-1:30
Presentation: Curriculum Development in Industrial Arts and Vocational-Technical Education	E. Glazener	1:30-3:00
Participant Group's Review Period	Staff	3:30-4:30
Evaluation	Staff	4:30-5:00
Presentation: Model City Program in Relationship to Occupational Training	J. Miller	7:00-8:30

Wednesday, August 14

Presentation: National, State, and Local Sources for Program Support	M. Allen	8:30-11:15
Discussion with Participants	M. Allen	11:15-12:00
Lunch (JCTI Dining Hall)		12:00-1:30
Participant Group's Review Period	Staff	1:30-3:00

Panel Reaction	M. Allen and Staff	3:30-4:30
Evaluation	Staff	4:30-5:00
Presentation: Economic Development Administration Role in Technical Education	P. Hays	7:00-8:30

Thursday, August 15

Presentation: Facilities and Equipment Planning	C. Dennard	8:30-11:15
Discussion with Participants	C. Dennard and Staff	11:15-12:00
Lunch (JCTI Dining Hall)		12:00-1:30
Participant Groups' Review Period	Staff	1:30-3:00
Panel Reaction	C. Dennard and Staff	3:30-4:30
Evaluation	Staff	4:30-5:00
Banquet (JCTI Dining Hall)		7:30-9:00

Friday, August 16

Staff and Consultant Reviews and Summaries	Staff	8:30-9:30
Submission of Written Reports by Groups	Staff	10:00-10:30
Evaluation	Staff	11:00-12:00
Adjournment		12:00

APPENDIX XV

National Program Development Institutes in Technical Education

AVA Meeting
Dallas, Texas

Sheraton Hotel
December 12, 1968

Agenda

Review of financial arrangements with
sponsoring institutes

Dr. A. J. Miller

Institute Directors reports on
individual institutes

Dr. R. Dugger

Dr. J. Arnold

Review of institute program and
instructional materials

Mr. Ivan E. Valentine

Review of institute evaluation
procedures

Mr. Ivan E. Valentine

Participant recruitment and selection

Staff

Exploration of data analysis

Mr. Ivan E. Valentine

New instructional materials to be
developed by The Center 1968
Institute Participants

Mr. Ivan E. Valentine

Conference Summary